

What is claimed is:

1. A method for applying a sprout-inhibiting compound, that exists in a solid state at ambient temperatures, to tubers, the method comprising the steps of:

providing a tuber storage enclosure in which are located tubers stacked, one on top of another;

providing an airstream that is ducted into the tuber storage enclosure;

pulverizing solid sprout-inhibiting compound to generate a sprout-inhibiting powder;

introducing the sprout-inhibiting powder into the airstream, which transports it to the tuber storage enclosure and discharges it into the airspace surrounding the tubers, the discharged powder filtering through the stacked tubers.

2. The method of claim 1, wherein said sprout-inhibiting compound is chlorpropham.

3. The method of claim 1, wherein pulverization of the solid sprout-inhibiting compound is accomplished using an impact mill.

4. The method of claim 3, wherein the impact mill is a hammer mill.

5. The method of claim 1, wherein the airstream is provided by a screw-type compressor.

6. The method of claim 5, wherein the pressurized airstream is cooled subsequent to leaving the compressor, but prior to the introduction of the powder into the airstream.

7. The method of claim 6, wherein the pressurized airstream is cooled by passing it through a heat exchanger.

8. The method of claim 7, wherein a coolant circulates between a chiller, where its temperature is reduced, and the heat exchanger, where it absorbs heat from the airstream.

9. The method of claim 1, which further comprises the step of providing a venturi in order to create a region of pressure below ambient pressure, into which the pulverized to which the sprout inhibiting powder is introduced.

10. An apparatus for applying a sprout-inhibiting compound, that exists in a solid state at ambient temperatures, to tubers in a storage enclosure, the apparatus comprising:

(a) an air compressor;

(b) a tuber storage enclosure having an interior in which tubers may be stacked, one on top of another;

(c) an air duct coupling the air compressor and the tuber storage enclosure, such that an airstream can be generated which flows from the compressor to the interior of the tuber storage enclosure;

(d) a mill for pulverizing solid material, the mill having a feed chute into which solid pieces of the sprout-inhibiting compound may be loaded, and an outlet port from which the pulverized sprout-inhibiting powder is expelled; and

(e) means for introducing the sprout-inhibiting powder into the airstream so that it can be transported by the airstream to the interior of the tuber storage enclosure.

10. The apparatus of claim 9, wherein said sprout-inhibiting compound is chlorpropham.

11. The apparatus of claim 9, wherein said mill generates particles of pulverized sprout-inhibiting compound, each of which has a major dimension of less than about 20 micrometers.

12. The apparatus of claim 11, which further comprises a separator interposed between the outlet port and the air duct, said separator acting to separate from the pulverized sprout-inhibiting compound, particles having a major dimension of greater than about 5 microns, and returning those particles to the mill for further pulverization.

13. The apparatus of claim 9, wherein the means for introducing is a venturi through which the airstream flows, said venturi creating a region of pressure less than ambient pressure, said region being coupled to the outlet port of said mill.

14. The apparatus of claim 9, which further comprises a heat exchanger interposed in the air duct between the compressor and the outlet port of the mill, said heat exchanger acting to absorb thermal energy from the airstream.

15. The apparatus of claim 14, which further comprises a chiller and a coolant fluid which circulates between the chiller and the heat exchanger.

16. A method for applying the sprout-inhibiting compound, chlorpropham, to potatoes, the method comprising the steps of:

placing the potatoes in a chamber;

providing a pressurized airstream that is directed into the chamber;

pulverizing solid chlorpropham to generate chlorpropham powder;

introducing the chlorpropham powder into the airstream, which transports it into the chamber, the powder entering the chamber and coating the potatoes.

5 17. The method of claim 16, wherein pulverization of the solid chlorpropham is accomplished using an impact mill.

18. The method of claim 17, wherein the impact mill is a hammer mill.

19. The method of claim 16, wherein the airstream is provided by a screw-type compressor.

10 20. The method of claim 19, wherein the airstream is cooled subsequent to leaving the compressor, but prior to the introduction of the powder in the airstream.

21. The method of claim 20, wherein the airstream is cooled by passing it through a heat exchanger prior to the introduction of chlorpropham powder therein.

15 22. The method of claim 21, wherein a coolant circulates between a chiller, where its temperature is reduced, and the heat exchanger, where it absorbs heat from the airstream.